

Appl. No.: 10/706,861
Amdt. dated 7/11/2006
Reply to Office Action of April 11, 2006

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REMARKS/ARGUMENTS

Claims 1-2, 4-12, and 14-16 are pending. Claims 1 and 11 are currently amended to incorporate language from former claims 3 and 13. These amendments are supported throughout the specification and original claims, and no new matter has been added. Claims 3 and 13 are canceled herein without prejudice or disclaimer. Applicants respectfully request entry of these amendments.

Claims 1-4 and 9-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Burkett et al. (J. Chem. Soc. Comm., 1996, pg. 1367-1368). Burkett discloses a mixture comprising 10 mol % *n*-octyltriethoxysilane (OTES) with 90 mol % tetraethoxysilane (TES). Applicants note that the molecular weight of OTES is about 276 and the molecular weight of TES is about 208. Therefore, a compound comprising 10 mol % OTES and 90 mol % TES would have 14.7 parts by weight of OTES to 100 parts by weight of TES. Burkett therefore does not disclose a composition for forming a porous film comprising one or more alkoxysilanes represented by Formula (1) and one or more alkoxysilanes represented by Formula (2) wherein said one or more alkoxysilanes represented by Formula (2) is present in an amount of 0.01 to 10 parts by weight to 100 parts by weight of said one or more alkoxysilanes represented by Formula (1), as claimed in claim 1 and all claims dependent thereon. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1 and 5-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Yagihashi et al. (U.S. Publication No. 2002/0132908). Claims 11 and 15 stand rejected under 35 U.S.C. § 103(a) as obvious in view of Yagihashi. Further, Claims 2 and 12 stand rejected under 35 U.S.C. § 103(a) as obvious in view of Yagihashi and Brinker et al. (U.S. Patent No. 6,387,435). As noted above, independent claims 1 and 11 have been amended to incorporate the subject matter of original claims 3 and 13, respectively. Since claims 3 and 13 were not implicated in these rejections, Applicants respectfully request reconsideration and withdrawal of these rejections.

Claims 1-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Brinker et al. Brinker discloses a combination of a precursor sol of tetraethylorthosilicate (TEOS) and an interstitial compound of tridecafluoro-1,1,2,2-tetrahydrooctyltriethoxysilane (TFTS). TFTS is

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not an alkoxysilane represented by Formula (2) because the tridecafluoro-1,1,2,2-tetrahydrooctyl- group is not "a straight chain or branched alkyl group having 8 to 30 atoms", as claimed in current claims 1-2 and 4-10. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1-2 and 6-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Egami et al. (JP 2002-030249). It is noted that claim 3, which was not implicated in this rejection, has been incorporated into claim 1. Accordingly, Applicants focus the arguments below on independent claim 11 and its dependents.

Egami discloses a liquid comprising at least one silicon compound selected from the group consisting of alkoxysilanes of the general formula (I): $X_nSi(OR)_{4-n}$. Egami also discloses in paragraph [0015] that examples of alkoxysilanes of general formula (I) include octyl trimethoxysilane and octyl triethoxysilane. However, Egami does not disclose a solution comprising polymer obtainable by hydrolyzing and condensing, in the presence of a surfactant, one or more alkoxysilanes represented by Formula (1) and one or more alkoxysilanes represented by Formula (2), as claimed in independent claim 11. Furthermore, because Egami does not disclose the solution comprising a polymer obtainable by hydrolyzing and condensing one or more alkoxysilanes represented by Formula (1) and one or more alkoxysilanes represented by Formula (2), Egami also does not disclose or suggest any relative amounts of alkoxysilanes represented by Formula (2) with respect to alkoxysilanes represented by Formula (1), and certainly fails to teach or suggest the relative concentration set forth in independent claim 11 as now presented.

With respect to the assertion in the Office Action that the semiconductor device of claims 11-16 is the same as the semiconductor device in Egami, Applicants submit that the specific silanes used to form the porous film, as well as the amounts of each silane, affect the properties of the film. As indicated on page 6, lines 11-18 of the present application: "an amount of the component comprising a long chain alkyl group is reduced, while the content of the tetraalkoxysilane necessary for keeping the film strength is kept high. In addition, because the component comprising a long chain alkyl group which is expected to have bad influence on the film strength is localized on the surface, the main frame can maintain the film strength derived

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from the tetraalkoxysilane." As indicated on page 13, lines 6-12 of the present application: "When less than 0.01 parts by weight of the alkoxysilane represented by Formula (2) is added, the hydrophobic properties may be insufficient. When more than 10 parts by weight of the alkoxysilane represented by Formula (2) is added, the film strength after sintering may decreases (sic)." Thus, the specification of the present invention provides clear evidence that the relative amounts of the alkoxysilanes would be expected to affect the properties of the resulting film. Since the Egami reference is silent as to the relative amount of the two claimed alkoxysilanes, it follows that there is no basis for asserting that the product of Egami is equivalent to the claimed device. Therefore, Applicants respectfully request withdrawal of these rejections.

Claims 12-16 stand rejected under 35 U.S.C. § 103(a) as obvious in view of the combination of Brinker and either Egami or Nobe et al. (JP 2001-098218). As indicated above, neither the combination of Brinker and Egami nor Brinker and Nobe teach or suggest a semiconductor device comprising a porous film formed from a mixture wherein said one or more alkoxysilanes represented by Formula (2) are 0.01 to 10 parts by weight to 100 parts by weight of said one or more alkoxysilanes represented by Formula (1). Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1, 6-7, and 9-10 stand provisionally rejected under the doctrine of obviousness-type double patenting with respect to claims 1 and 6-8 of U.S. Application No. 10/810,360. As noted above, independent claims 1 and 11 now incorporate subject matter from original claims 3 and 13, respectively, which were not implicated in this rejection. Accordingly, Applicants respectfully request withdrawal of this rejection.

Applicants respectfully submit that all the claims are in condition for allowance. Accordingly, a Notice of Allowance is respectfully requested in due course. If any minor informalities need to be addressed, the Examiner is directed to contact the undersigned attorney at (404) 881-7764 or Chris Humphrey at (919) 862-2213 by telephone to facilitate prosecution of this case.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of

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this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the US Patent and Trademark Office at Fax No. (571) 273-8300 on the date shown below.


Cynthia V. Hall

July 11, 2006
Date